

## ABSTRACT

*This final project studies the MoS<sub>2</sub> layer deposited on PET, ITO / PET and SiO<sub>2</sub> substrates using two methods, namely drop casting and spin coating. To get a thin and evenly distributed MoS<sub>2</sub> layer, a good spin coating parameter optimization is needed. In this experiment, the rotating speed and pick dwell were varied in order to optimize the layer distribution. Which might affect optical and electrical properties. The deposited MoS<sub>2</sub> layer using spin coating results in a thinner layer thickness than the drop casting method. The distribution of MoS<sub>2</sub> / PET has more gaps between two layers compared to the distribution of MoS<sub>2</sub> / ITO / PET and MoS<sub>2</sub> / SiO<sub>2</sub> layers. The average thickness of the MoS<sub>2</sub> / PET layer & MoS<sub>2</sub>/ITO layers are 7 nm and 5 nm, respectively. The shorter the pick dwell, the thicker the layer. The thickness decreases with the increasing of the spin coating rotating speed. Electrical characteristic measurement was being done by observing I-V characteristic curve of MoS<sub>2</sub> layer on each substrates. Deposition methods do not influence significantly the electrical properties which are more dependent on substrat types.*

*Keywords : MoS<sub>2</sub>, PET, ITO/PET, SiO<sub>2</sub>, drop casting, spin coating.*